Message

From: Kutty, Arvind [AKutty@TechLawInc.com]
Sent: 3/17/2017 9:06:17 PM
To: Dan Pope [DPope@css-inc.com]; Davis, Eva [Davis.Eva@epa.gov]; d'Almeida, Carolyn K. [dAlmeida.Carolyn@epa.gov]; Brasaemle, Karla [KBrasaemle@TechLawInc.com]; Henning, Loren [Henning.Loren@epa.gov]; Cosler, Doug [DCosler@TechLawInc.com]; Wayne Miller (Miller.Wayne@azdeq.gov) [Miller.Wayne@azdeq.gov]
CC: Eleanor Jennings [ejennings@teci.pro]; Steve Willis [steve@uxopro.com]
Subject: Proposed wells for injections
Attachments: Draft_Final_ST012_RD-RAWP_Injection Well Locations.pdf

Please see attached figures for injection wells.

From: Dan Pope [mailto:DPope@css-inc.com]
Sent: Friday, March 17, 2017 2:58 PM
To: Davis, Eva <Davis.Eva@epa.gov>; d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Brasaemle, Karla <KBrasaemle@TechLawInc.com>; Henning, Loren <Henning.Loren@epa.gov>; Kutty, Arvind <AKutty@TechLawInc.com>; Cosler, Doug <DCosler@TechLawInc.com>; Wayne Miller (Miller.Wayne@azdeq.gov) <Miller.Wayne@azdeq.gov>
Cc: Eleanor Jennings <ejennings@teci.pro>; Steve Willis <steve@uxopro.com>
Subject: RE: EBR Path Forward

(Some changes have been made from the first version of this email)

Thoughts:

Loren has said that **performance criteria** are to be emphasized.

Modeling

AF should provide a predictive modeling approach suited to determining timeframes for EBR and MNA to reach the respective goals for those remedy approaches. This modeling will include items related to performance criteria (timelines, triggers, COC concentrations, etc.)

Field Tests (Pre-injection testing)

Have AF propose their ideas for pre-injection field tests to assess microbiology and geochemistry initial conditions, for comparison to post-injection tests.

We can propose our own pre-injection field tests to assess microbiology and geochemistry initial conditions, and try to come to a meeting of the minds with AF.

These pre-injection and post-injection tests (for the pilot test) would form another set of performance criteria; that is, to determine if the appropriate bug populations are developed to proper levels and activity.

Field Feasibility/Pilot Study

A field study would be the first major milestone (performance criterion) for success; i.e., if the COCs concentrations are lowered to the required concentrations, and stay there, that would be a major step to indicate feasibility of EBR.

A field study could consist of starting EBR at selected sections of the site (i.e., essentially just a portion of what they have already planned for full-scale EBR, so there would not have to be any major changes in terms of approach). That is, pick wells with substantial LNAPL, at least one well in each of the various vertical zones, have injection wells upgradient of the LNAPL wells, and monitoring wells immediately downgradient of the wells, and inject sulfate, etc., as planned for the full-scale EBR. If AF can timely remediate that well so that the COC GW concentrations in those representative wells and the downgradient monitoring wells are (and remain over time) below EBR goals , then that would be strong evidence that a full-scale approach could work.

The chosen LNAPL well should have significant LNAPL – more than a sheen – at least two inches of LNAPL fairly consistently, so that actual remediation of GW in contact with substantial LNAPL can be assessed.